

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Vanguard EMS

Oregon Manufacturing Extension Partnership

Vanguard EMS Takes the Lean Enterprise Journey

Client Profile:

Vanguard EMS, founded in 2003, is a contract manufacturer of electronic assemblies. Located in Beaverton, Oregon the company has 245 employees.

Situation:

Vanguard EMS has five surface mount technology (SMT) assembly lines that generally consist of a solder paste station, several SMT machines (i.e. tape & reel, tube feed, pick and place units) and a reflow oven. Existing set-up times were taking an average of just over three hours and as long as four to five hours of down time on an entire line. In addition, the staging area (where job kits were prepared for the SMT lines) did not always have good communication or performance in regards to which kits were ready for the line to run.

In addition, it was known that many products were not running at the expected production rate. While the desired rates were known, they were not generally available to operators so little action could be taken to make improvements. Additionally, there were desired operational configurations that should result in the expected production performance but those also were not always available to operators and were not considered "standardized."

Vanguard wanted to decrease the average downtime of a set-up by 50 percent (less than 1.6 hours in order to increase machine capacity (to have more capacity to sell) and to allow for smaller batch sizes to be run. Additionally, the company wanted operators to know the expected job performance and be able to identify "non-standard" production parameters and, if possible, make adjustments to allow operating at expected performance levels. Vanguard contacted the Oregon Manufacturing Extension Partnership (OMEP), a NIST MEP network affiliate, for help.

Solution:

OMEP and Vanguard initiated a combination training and consulting program focusing on the two areas (SMT and Staging). Most employees had already received Principles of Lean Manufacturing training. The long set-up times on the SMT lines was first addressed by starting with a comprehensive MEP Set-up reduction training program. This created a standardized set-up procedure that successfully off-loaded many responsibilities upstream or other areas. Also, responsibilities were clarified between technicians and operators so that communication and confusion was minimized. Finally, set-up times were tracked to ensure that performance had improved.

A 5S training program (OMEP course) was used to significantly transform the staging area resulting in standardized work and maintenance areas and visual controls for indicating job status for workers in Staging and on the SMT line. Finally, in order to improve operating performance, a problem-solving class was used to develop production rate and configuration information that could be used to ensure correct procedures were being followed, that desired rates were being achieved and to be able to document and correct sub-standard performance.

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Results:

- * Increased sales by 10 percent.
- * Increased capacity by 16 percent, or 225 hours per month.
- * Reduced work in process.
- * Achieved a more competitive and profitable position.

Testimonial:

"The Oregon Manufacturing Extension Partnership, and specifically Mark Biederbeck, with his knowledge and extensive experience have proved to be a valuable resource supporting our Lean Enterprise journey, from the basic education in the Principles of Lean to the success of the numerous training and Kaizen projects."

Neil Schneider, Manager, SMT Operations